

**Madison Paper Industries
Somerset County
Madison, Maine
A-427-77-1-A**

**Departmental
Findings of Fact and Order
New Source Review
Amendment #1**

After review of the air emissions license amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Madison Paper Industries
CURRENT PART 70 LICENSE NUMBER	A-427-70-A-I and amendment A-427-70-B-A
LICENSE TYPE	06-096 CMR 115, Minor Modification
NAICS CODES	322121 Paper Mills
NATURE OF BUSINESS	Mechanical Pulp and Supercalendered Paper Production Facility
FACILITY LOCATION	Madison, Maine
NSR AMENDMENT ISSUANCE DATE	

B. Amendment Description

Madison Paper Industries has submitted an amendment application to allow for a temporary package boiler to be brought on-site should one or more of the existing boilers malfunction and become unavailable.

C. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>
Temporary Package Boiler	90	643	#2 Fuel oil, 0.5% sulfur

D. Application Classification

The modification of a major source is considered a major modification based on whether or not expected emissions increases exceed the “Significant Emission Increase Levels” as given in *Definitions Regulation*, 06-096 CMR 100 (last amended December 1, 2005).

<u>Pollutant</u>	<u>Temporary Boiler Emissions * (ton/year)</u>	<u>Significance Emissions Increase Level (ton/year)</u>
PM	2.3	25
PM ₁₀	2.3	15
SO ₂	22.8	40
NO _x	4.5	40
CO	3.6	100
VOC	0.2	40

- * The calculations for the temporary package boiler are for six weeks of operation (1008 hours). In reality, overall emissions from the facility will not increase, but will most likely decrease since one or more of the boilers will not be operating if the temporary boiler is brought on-site.

This amendment is determined to be a minor modification under *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (last amended December 1, 2005) and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in 06-096 CMR 100. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in 06-096 CMR 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Temporary Package Boiler

As part of a contingency plan, Madison Paper Industries has requested to license a 90 MMBtu/hr temporary package boiler firing #2 fuel oil, and having an operational limit of 1008 hours (equates to 6 weeks). This temporary boiler will only be brought on-site in the event that one or more of the existing oil boilers are unavailable. The existing boilers are all #6 oil fired units with the following capacities: Boiler 4 (119 MMBtu/hr), Boiler 6 (99.6 MMBtu/hr), and Boiler 7 (117 MMBtu/hr).

The submitted application included information for a 90 MMBtu/hr Nebraska NOS-2-A/-S-64 model boiler. However, due to the nature of sudden unforeseen scenarios that would warrant the use of a temporary boiler, including availability and timing issues, Madison Paper Industries proposes to utilize a # 2 oil fired unit that has a capacity equal to or less than 90 MMBtu/hr. The make and model may vary from the one presented in the application. The stack shall be above the building height of the controlling structure.

Depending on the unit brought on-site, the temporary package boiler may be subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc for steam generating units greater than 10 MMBtu/hr manufactured after June 9, 1989.

A summary of the BACT analysis for the temporary package boiler (90 MMBtu/hr) is the following:

PM (particulate matter) and PM₁₀ - 0.05 lb/MMBtu based on manufacturer data and 4.5 lb/hr.

SO₂ (sulfur dioxide) – the firing of fuel which meets the criteria in ASTM D396 for #2 fuel oil (no greater than 0.5% sulfur content by weight) and 45.3 lb/hr.

NO₂ (nitrogen oxide) – 0.1 lb/MMBtu based on manufacturer data and 9 lb/hr.

CO (carbon monoxide) - 0.08 lb/MMBtu based on manufacturer data and 7.2 lb/hr.

VOC (volatile organic compounds) – 0.004 lb/MMBtu based on manufacturer data and 0.36 lb/hr.

Opacity – based on *Visible Emissions Regulation*, 06-096 CMR 101 (last amended May 18, 2003): Visible emissions from the stack shall not exceed 20% opacity on a six minute block average basis, except for no more than one (1) six minute block average in a 3-hour period.

C. Annual Emissions

Facility licensed emissions were calculated based on an annual fuel limit of 11,000,000 gallons per year (12 month rolling total) of #6 fuel oil, an annual sulfur dioxide limit of 1276 tons/year for the boilers, use of the groundwood mill, and 1008 hours of operation of a temporary package boiler.

Total Allowable Annual Emissions for the Facility
(used to calculate the license fee)
Tons/year

EMISSION UNIT	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Boilers 4, 6, and 7	135	135	1276	371	100	8
Groundwood Process	-	-	-	-	-	39
Temporary Package Boiler*	2	2	23	5	4	0.2
TOTALS	137	137	1299	376	104	47

* Note that the addition of the temporary boiler emissions is worst-case scenario since the emissions will actually be offset by one or more of the three main boilers being off-line.

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a minor modification shall be determined on a case-by case basis. Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source based on the

information available in the file, the temporary use of the boiler in an offset capacity to the existing boilers, the firing of #2 fuel oil, and the potential tons/year emissions.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-427-77-1-A pursuant to the preconstruction licensing requirements of 06-096 CMR 115 and subject to the standard and special conditions below.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

(1) Temporary Package Boiler

- A. Madison Paper Industries may utilize a temporary package boiler only when one or more of the existing three boilers are unavailable. The package boiler shall not exceed a maximum capacity rating of 90 MMBtu/hr and shall not be operated for more than a maximum of 1008 hours (equating to 6 weeks) in any calendar year. Records shall be maintained documenting the size, make, and model of the temporary package boiler, the on-site operating dates, and the off-line boiler(s) for which the unit is temporarily replacing the steam load. [06-096 CMR 115, BACT]
- B. The temporary package boiler shall fire fuel oil which meets the criteria in ASTM D396 for #2 fuel oil. Compliance shall be demonstrated by fuel records from the supplier showing the type of fuel and the quantity of fuel delivered. [06-096 CMR 115, BACT]

C. Emissions from the temporary package boiler shall not exceed the following:

Pollutant	lb/MMBtu	lb/hr	Origin and Authority
PM	0.05	4.5	06-096 CMR 115, BACT
PM ₁₀	0.05	4.5	06-096 CMR 115, BACT
SO ₂	-	45.3	06-096 CMR 115, BACT
NO _x	0.1	9.0	06-096 CMR 115, BACT
CO	-	7.2	06-096 CMR 115, BACT
VOC	-	0.36	06-096 CMR 115, BACT

D. Visible emissions from the temporary package boiler shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period. [06-096 CMR 101]

E. The stack for the temporary package boiler shall be greater than the building height of the controlling structure as defined by GEP (Good Engineering Practice) modeling guidance. [06-096 CMR 115, BACT]

(2) **New Source Performance Standards**

If the temporary package boiler is subject to Federal New Source Performance Standards 40 CFR Part 60, Subpart Dc, Madison Paper Industries shall comply with all applicable requirements of 40 CFR Part 60, Subpart Dc.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF , 2008.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: December 5, 2007

Date of application acceptance: December 6, 2007

Date filed with the Board of Environmental Protection: _____

This Order prepared by Kathleen E. Tarbuck, Bureau of Air Quality.